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Differentiation of the Phenomenal Field

By

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FOREWORD

Since the turn of the century, there has been a great deal of study of human behavior and how to interpret it. We have seen various theories come and go as new evidence has emerged.

As we continue our study of human behavior in the mid-twentieth century, we are aware of the increasing influence of various applications of the field theory. Some educators are using it more as a system while others are using it as a method. Professor Turney has attempted to use it as a method for facilitating our understanding of how human personality develops and how behavior is affected. He has formulated seven postulates which are fundamental in understanding the differentiation of the phenomenal field and has concluded his paper with a brief section on implications.

We are happy to present Professor Turney's paper as one number of our series of *Kansas Studies*, for we know it will help many to clarify their thinking of this aspect of field theory.

KENNETH E. ANDERSON
OSCAR M. HAUGH

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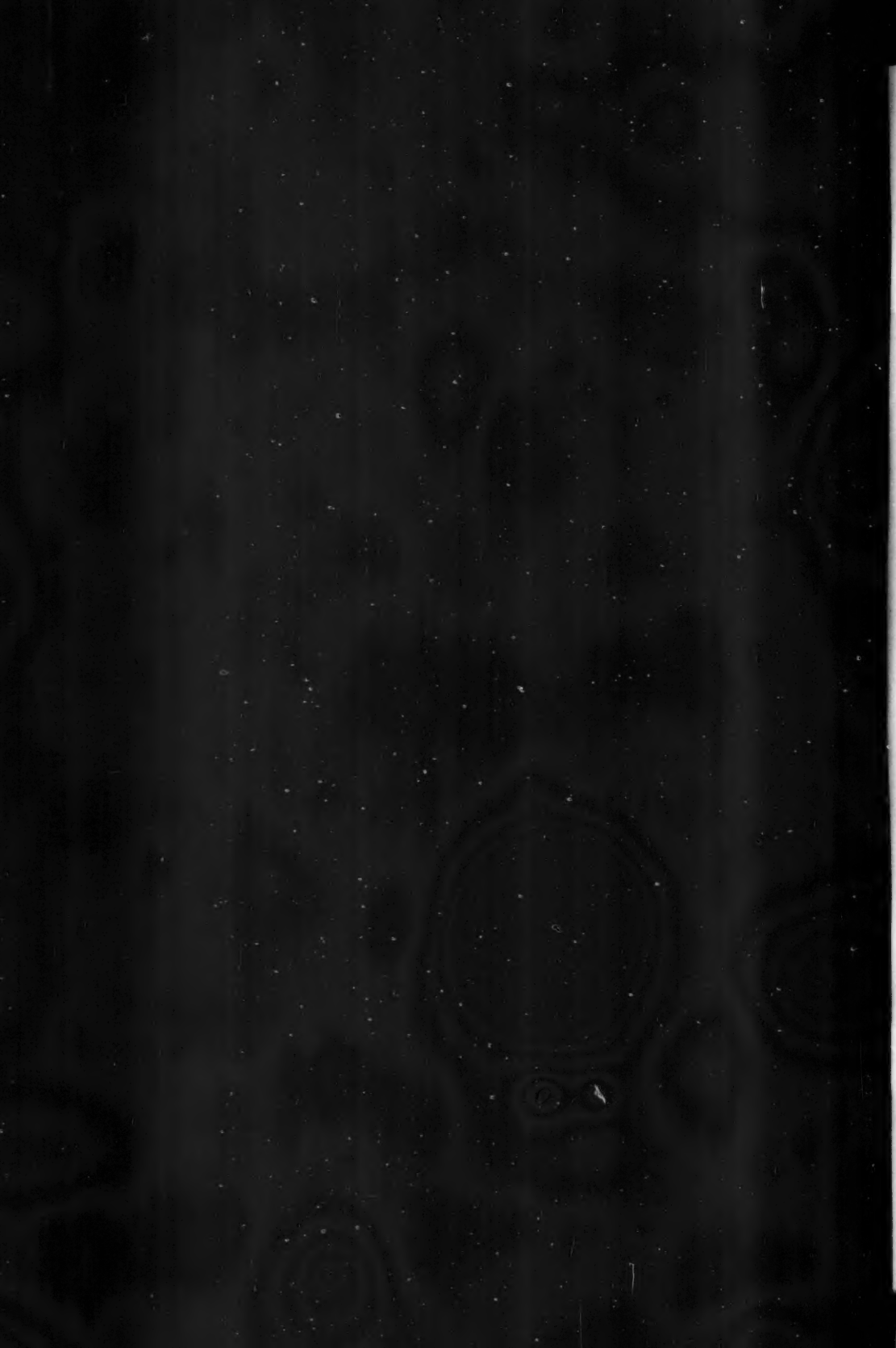

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A. H. Turney
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Among the many theories of personality it may be said that at present there are two predominant theories each of which determine the interpretations of human behavior and affect drastically theories of education and therapy: the psychoanalytic and the phenomenological. This paper accepts the latter as the more adequate and correct in the light of psychological developments in recent decades and will concern itself with one problem viz., the differentiation of the phenomenal field. It will do this by setting forth and discussing seven postulates explaining the differentiation of the field.

To introduce the problem it may be pointed out that through the years since some species of field theory (gestalt psychology, organismic psychology, phenomenological psychology) have been current in this country, various postulates have been formulated concerning this problem, most of which purported to deal with part whole relationships. A familiar example is "The whole is more than the sum of its parts," to which Lewin objected years ago.

For the purposes of this discussion we shall accept Snygg and Comb's definition of the phenomenal field and refer the uninitiated reader to their explanation of it: "By the phenomenal field we mean the entire universe, including himself, as it is experienced by the individual at the instant of action."[1]

Such definition implies that this field is a differentiated field, which though unified has distinguishable parts as for example " himself." Our purpose here is to use these postulates to explain the process of differentiation, the source of the dynamics, and to clarify to some extent the meaning of awareness.

Before presenting the postulates and their interpretation a preliminary set of assumptions need attention.

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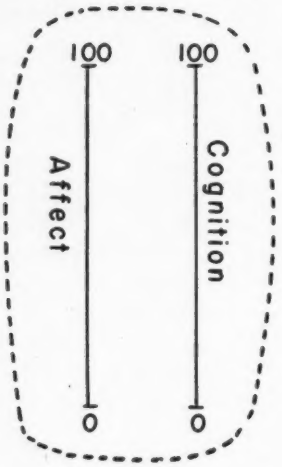
[1] Donald Snygg and Arthur W. Combs. *Individual Behavior*. Harper, New York, 1949. p. 57.

We can assume with reasonable assurance that man is born both a cognitive and an affective organism. Let us represent these diagramatically as the two scales below:



The first or affective scale implies that at every moment of life space the organism is a "feeling" organism. But the intensity of the affect may vary from just a little more than zero, (but probably never zero) to an amount destructive to the organism. People do die of fright and people do suffer permanent effects resulting from very intense or long continued emotional experiences. There are on the other hand moments of life space when the affect is slight as in deep sleep or anesthesia. We have tended perhaps to use the word emotions for the upper end of the scale and feelings for the lower. Here we regard the scale as a continuous graduation of affect from lowest to highest.

In his monograph "Emotions" Lund presents an excellent discussion of the problem of identification of emotions.[2] He defines emotions as "a strongly affective state involving diffuse somatic reactions and rather widespread, centrally aroused, visceral changes."[3] Continuing he says, "In this definition the expression 'centrally aroused' calls attention to the fact that visceral changes, when occurring under emotional conditions,

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[2] Frederick H. Lund. *Emotions.* Ronald Press, New York, 1939.

[3] *Ibid.*, p. 14.

are of central origin, whereas under other conditions they are usually of local origin."[4]

It is not our purpose to review all the literature concerned with the identification and nature of feeling and emotion. With no intent whatever of making interpretation not intended by Lund, it is still possible to suggest three points: first, that his definition uses the term affect which is entirely compatible with our theme; second, it seems to be concerned with "strong" affective states; and third, we can interpret "centrally aroused" as similar to if not identical with a state of awareness. We are extending the generic term "affect" to all degrees of feeling or emotion of which the organism can or does become aware, whether initiated by sensory organs as in pain, cold, or heat, or, initiated by a cognitive event resulting in fear, apprehension, uneasiness or any similar state.

It may be scarcely an assumption that the human organism is born an affective organism. It is however an assumption that all the states labeled to indicate feeling and emotion can be represented as a continuum of degrees of affect. Yet there is little if any evidence to the contrary, particularly if we limit our consideration to those affective states of which the organism is or can become aware.

Likewise we can assume that the organism is a cognitive organism by construction and that this phase of experience is also continuous from birth (or perhaps shortly before) until death. Even in sleep there is at times some cognitive activity.

We are using cognition as a generic term including all degrees of perceptions from the "simplest" such as a perception of pressure to the most intricate perception of relationships among the most complex data. Insight as an alternate term must in our formulation carry the same meaning. The very "simplest" insights that occur in the neonatus or late embryonic form cannot be specifically designated or described but, as discussed later, it is necessary to assume that cognitive events of "simple" nature begin early. It should be obvious that there is no real basis for evaluative terms such as "simple" as applied to neonatal or prenatal cognitive events.

As in the case of affect we shall not attempt to review the enormous amount of neurological and statistical data permitting the final conclusion that Homo sapiens is, as previously indicated, a cognitive organism, and that all adjustments to the environment is possible only because this is

[4] *Ibid.*

so. We are not implying any rightness or wrongness, adequacy or inadequacy by the term adjustment. In a previous writing we briefly sketched the implications of neurological data then available.[5] Were this done today some changes would be necessary which we cannot review here, but they would be slight and in no way destructive to the interpretation that the central nervous system is the physical basis for some overall dynamic functioning which is the physiological basis for cognition as defined. The same may be said with regard to the statistical evidence. If anything, it is more rather than less corroborative of our assumption.

It is more difficult to justify any gradation of insight or cognitive activity and yet something like it must be true. There are times when each of us feels that we are "thinking better" or "seeing into" a problem better than at other times. The cognitive process in sleep or when one is nearly asleep appear to be on a "simple" or more inadequate level. The so-called idle stream of thought illustrates. But we can think of gradations in complexity of the data or fundaments between which relationships are cognized. We can think of a very limited cognitive event involving no verbal symbols such as that probably occurring very early in life and which may be represented by our more advanced symbolizing as "I am cold." It may be a first so-called "vague" perception of pressure for example. At the other end of the scale would be the cognitive events we describe as insights into very complex symbolic data. Between the two extremes are gradations of complexity of "data" and therefore to some degree gradations in the cognitive potential necessary to perceive the relationships involved. It should not be concluded that we are implying that at this time anyone can make a perfect scale. Nevertheless a good individual mental examination shows some of this characteristic. Nor is it to be assumed that if we had a perfect measure of the cognitive potential of individuals and a perfect gradation of relationships between a thousand items or fundaments there would be a plus one correlation between the first and the displayed insights. This does not destroy the validity of our assumption.

It is essential to note that these two aspects of life space are interwoven. One might perhaps use the term *fused* except that the identity of the two facets is never completely lost. Otherwise it is an expressive term for their relationship. The cognitive activities may vary in respect to type of relationship cognized, whether classified as to simplicity or complexity or

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[5] A. H. Turney. "The Psychological Basis of Grouping." *The Grouping of Pupils*. p. 81-115. Thirty-fifth Yearbook of the National Society for the Study of Education, Part I. University of Chicago Press, Chicago. 1936.

difficulty or amount. And the effect may vary in intensity from just more than none to a great amount. But the important point is that these two aspects of life space are continuous and interactive. The affect present may be a fundament in the cognition in the case of pain or it may tend to direct the cognitive event.

To summarize then, the differentiation of the phenomenal field from the first is a function of cognition and the dynamics of the field at any moment is a function of the affect. To elucidate this differentiation and its changing dynamics the following postulates are presented and interpreted.

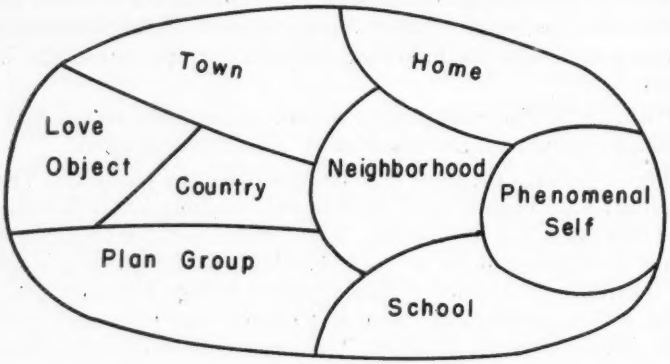
Postulate 1: *The emergence of a part of the phenomenal field is a cognitive event always accompanied by some degree of affect.*

This is perhaps the most fundamental of all the postulates. The accounting for the beginning of the field and its subsequent differentiation is the very essence of our problem. If we define insight or cognition as an organized response at the level of consciousness, insight is a necessary and inevitable occurrence in living human beings. Or more precisely stated, by construction the human organism inevitably and continuously exhibits cognitive processes. The arguments over first learning (or first differentiation) are from this approach pointless. Just as a normal stomach performs its role in digestion, so does the central nervous system perform its cognitive function. It does not follow that any specific "insight" must occur. From the standpoint of an observer there may be an error; from the standpoint of the individual there never is.

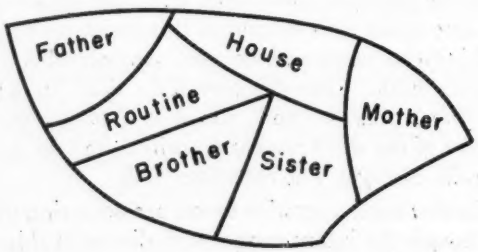
As an illustration let us consider an infant of let us say eight months old being fed by bottle on the usual routine. Its mother holds it, cuddles it, talks to it and in this talk the sound "milk" occurs over and over again. There must come a first time that the infant cognizes that the stuff it so eagerly sucks from the bottle and the noise "milk" are related. Through reinforcement the relationship becomes fixed, but the first cognition establishes the emergence into its field of this *event.* It can emerge in no other way. This event occurs with no word symbols other than its awareness of the noise "milk." Later this part of the field (milk) continues to differentiate. *Warm* milk, *hot* milk, and so on. It may be pointed out that in this case most of the affect present is positive, and we may say an attitude toward milk emerges. The baby *likes* milk.

It is certain that other cognitive events are occurring during this experience. Although the infant cannot verbalize it at this age some insights involving the "mother" must be occurring and the event "mother" is emerging and differentiating continuously.

This introduces a problem of some magnitude and importance. What constitutes a part of the field? How many or few parts are there and how discrete or fused? There seems to have been a tendency to conceive the phenomenal field as composed of parts of "size." This may have been fostered by attempts to represent the field in two-dimensional graphs. For example, let us represent a phenomenal field as follows:



This would represent an advanced stage of differentiation, and it should be readily seen that it cannot actually represent the field. Even though one accepts the idea of parts within parts and attempts to represent this in the case of the part "home" it still cannot satisfactorily represent the field. To try to represent all that "home" as a part of the field includes, leads to an extensive fractioning. We must therefore admit that we do not have a dimensional scheme that will represent the field. We cannot use size as representing differences in importance of specific parts, nor can one fix a given part within a part. At one moment "mother" may



Home

be, for a given individual, a part of home; at another moment "mother" may be a major part quite free of any association that can be characterized as a part of "home."

Even though we agree that the phenomenal field defined as previously stated is the only reality the individual can have, yet psychologically we must also accept the field as one of mental constructs. Its first existence, occurring at birth or before must begin in the first cognitive event, which we may conceive as some "awareness" of pressure perhaps. Yet it is definitely a species of cognition and without question is an awareness of a "feeling" of pressure. (If that is the first.) Awareness as we shall try to show is primarily a cognitive process. The first differentiations are limited largely no doubt to events later embraced in the concept phenomenal self, but not necessarily so. That is to say that at a very early age an infant may be thought of as developing the insight we symbolize later as "I am cold" but this may very early be something like "this makes me cold," *this* representing a not very clearly differentiated part of the field eternal to the phenomenal self. Nor can one say that these are "vague." To take the position so frequently done that "It seems likely that James' description of the child as existing in a 'blooming, buzzing confusion' is a highly realistic description of the field of the newborn infant"[6] is entirely gratuitous and undercuts the implications of the phenomenal approach to the understanding of behavior. We can agree only in part with Eccles, " in a brief interval of time we have a multitude of transient mental experiences that are not linked together and vanish past all recall in a few seconds. Perhaps such mental experiences are all animals and very young children have, all their learning processes being subconscious and strictly speaking unremembered."[7] It is only with his interpretations of subconscious learning that we need to differ drastically and to differ partly with the unremembered.

Whether because of the uncompleted maturation of the infant's brain, or because of the limited extent of its field differentiation, the first events are limited in scope, that is cognition of "simple" relationships between few fundaments as the awareness, i.e. cognition, of pressure, or at age of five days of a bright light overhead. But they are cognitive events and may be, some must be, the beginning of field differentiation. To say they are a buzzing confusion is to imply that there is no beginning of field differentiation.

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[6] Snygg and Combs. *Op. cit.* p. 8.

[7] John Carew Eccles. *The Neurophysiological Basis of Mind*. The Claredon Press, Oxford, 1953.

Neither have we profited by using differentiation as limited to mean a "trend from generalization to differentiation." Strictly it must mean only a change in the interpretation of "the universe including himself." As we shall show later this may mean something like individuation or it may mean something like generalization or grouping into larger wholes.

Even though we must agree with the first part of the quotation from Eccles that a "multitude of transient mental experiences . . . vanish past all recall," it does not follow that the earliest cognitive events all have no part in field development. The innumerable events involving awareness of pressures, coldness, wetness, hunger, without much doubt eventuate in an awareness of himself, and begin the establishment of meaning for later symbols for coldness, hunger, and other concepts.

It is therefore highly probable that the phenomenal field is in actuality a very intricate total of almost innumerable "parts" which later become clustered through cognitive differentiation thus making possible the concept of parts inclusive of parts.

However we must also recognize that parts of the field that may be labeled as "mother" "father" do differentiate in this manner. That part labeled mother differentiates continuously as the individual learns that mother is kind, cross, smiles, and scolds. It may be pointed out here that differentiation implies only change in the insights or cognition that explain new events in the field or alterations in the interpretation of parts already in the field. These two changes are not psychologically different since the alteration must affect the dynamics and therefore differs not at all from the emergence of a new event so far as its import relative to the dynamics is concerned. There is of course the problem of reinforcement involved in alterations that will be dealt with later. To repeat, differentiation in this sense is not to be limited to the meaning of individuation. Actually there is little to commend the ideas that cognitive events follow patterns labeled inductive or deductive. In field differentiation both of these might be present in extremely brief intervals of duration.*

Let us return to the consideration of the part of the field labeled "mother." The first emergence of "mother" must be before any verbal symbols are involved. The experience of being fed, warmed, cuddled and fondled all must provide opportunities for early perceptions usually with positive affect. Much later the event relating the sound "mother" to the animal providing the comfort and security occurs, but certainly

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*It is hoped that in a later paper the implications of these concepts for thinking, reasoning and problem solving may be presented.

"home" has not emerged. Long after when "home" is first differentiated mother may become a part of it.

The essentials are (1) that at every instant of life space events in the field emerge and that these events are always and without exception cognitive and also always and without exception there is some affect. The patterns cognized between events may move toward differentiation of a more or less stable clustering of parts into more comprehensive segments of the field and/or individuation of a given part such as "home" or "school." (2) That no part involving other parts is necessarily a fixed and completely stable organization of the field although it is rather generally accepted that with "maturity" the organization tends to stabilize.

Postulate 2: *The whole field determines in part the nature of each of its parts. There is (at present) no mathematical formula representing the degree of this determination.*

This postulate takes exception to some of the previous attempts to explain the part-whole relationship in such terms as parts derive their properties from wholes. Our interpretation of the relation between wholes and parts must satisfy our interpretation of the realities of our universe. A window has certain properties peculiar to windowness regardless of the house of which it is a part and windows themselves are "wholes." But the house does determine to some degree the "interpretation" of the windows. In the differentiation of human personalities once the phenomenal field begins each phenomenal self may perceive seemingly identical parts, differently, as for example "dog," "toe," "mother." It is no new thought that no two individuals are alike and that no two individuals perceive the "same" thing in identical fashion. But there is a community of content permitting adjustment of individuals to each other. The postulates explaining the differentiation of the phenomenal field must meet the known facts.

The implications of this postulate are of practical importance. We can understand better why one child at a given stage of development, that is whose phenomenal field has reached a given stage of differentiation, will perceive as a threat a situation which to another one may be no threat or even have enhancement value.

Let us consider Frank's statement. "By many students of personality, it is said that if the infant is given adequate breast-feeding and affectionate cuddling, his future attitude toward the world will be outgoing, generous, and trusting, whereas if he is denied these satisfactions, he will

be niggardly, and resentful."[8] If we consider two children, one having received these satisfactions and one not, then at any age, say five, we have two different phenomenal fields.

These differences are in part the function of differences embryologically determined but also of previous effects of the conditions that follow from our second postulate. Given two different phenomenal fields our postulate holds. The first will perceive any newly emerging part quite differently from the second. The first will receive "school" or "teacher" or other members of the kindergarten into its field quite differently from the second. More specifically on the occasion of the first emergence into its field of school whether on a concrete or verbal form, the first might perceive it as something desirable, the second as something threatening. This same generalization will hold true of all emerging parts. The two children will perceive them differently and the associated affect will be different.

We reach what seems to be an insoluble problem if we push back the comparisons to earlier and earlier stages of the phenomenal field. In every case there must be a beginning. And this beginning can only be because of cognitive events. (Postulate 1). Any differences then could only result from structural differences embryologically determined and by definition prior to the first event there is no phenomenal self or field. Nor would it seem defendable to assume great differences between individuals with respect to the first events, i.e. "awareness" of pressure or similar states. It is necessary to assume therefore that in early stages of the phenomenal fields differentiation, the determination by the field of the nature of the parts may be thought of as "slight" but increasing as the field differentiates.

But we cannot minimize the importance of this interpretation. If we imagine switching these two children at birth, then the fields of the two would be somewhat reversed by age five. The former outgoing one is now the rebellious, the former rebellious is now the outgoing. It is necessary to grant that the two hypothetical "rebellious" or "outgoing" individuals would not be identical. Those "characteristics of humans chiefly fixed in the embryological field"[9] would make some difference.

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[8] Lawrence K. Frank. "The Fundamental Needs of the Child." *Mental Hygiene*, 22 (July 1938) 353-79.

[9] J. F. Brown. *Psychology and the Social Order*. McGraw Hill, New York, 1936. p. 267.

Nevertheless the nature of the field of the "rebellious" and the "outgoing" child would function as previously delineated. The important point is that the emergence of new parts are to some degree determined by the structure of the phenomenal field at any moment of duration. If we say that a part of the phenomenal field is the "home", we can readily understand that the "meaning" of "home" to a given individual is not only a function of the uniqueness of this particular home but of the uniqueness of this particular individual's phenomenal field.

The extent to which the nature of the field determines the nature of the parts seems to increase as the field stabilizes. "For most of us the phenomenal self is an extremely stable organization as well. Any one who has ever attempted to rebuild a child's feeling of competence, once he has developed a concept of himself as incompetent and inadequate, can testify to the difficulty of bringing about such changes."[10] This type of stability or rigidity is extremely common. A twenty-one-year-old girl, beautiful and extremely intelligent had a long history of behavior difficulties apparently beginning at an early age (about 7 or 8) at which time she had a very pronounced pernicious acne. The majority of her insights, attended as they were by intense affect, had reinforced her interpretation of herself as inadequate, inferior, or undesirable, so that at this age, i.e. 21, even though all the symptoms of the original difficulty had vanished, she would not or *could* not re-evaluate herself.

In another paper we hope to explore this problem of attitudes in greater detail than can be done here.[11] For our immediate purposes it is enough to point out that this increasing extent of determination by the field of emerging events is not purely a function of "maturity" or "age" or "development." Nor is it all undesirable. Stable character is desirable but much of the stability affecting the perception of new events are subject to manipulation.

Postulate 3: *Any part determines in part the nature of the field and affects its dynamics at any moment of action.*

This third postulate we believe is in accord with the data and observations that contribute to our understanding of the problem. From the first cognitive event thereafter every newly emerging event, or subsequent differentiation of it, must determine to some degree the nature of the entire field. The extent of this may be great or very, very slight, but

[10] Snygg and Combs, *Op. cit.*, p. 79-80.

[11] A. H. Turney, "Attitudes, A Psychological Interpretation" (in preparation).

it must be. This is not to imply that the first events are necessarily greatly different between individuals but with the expansion of the field they may become so and their determination of the nature of the field justify interpretations such as "Levy has apparently shown that satisfactory breast-feeding, (cuddling) experiences do more than whole dictionaries of later words in the establishment of security in the family group."[12]

We have erred no doubt in overlooking or minimizing the cognitive phase of such experiences as "breast feeding." No matter what the age of the infant there is without doubt continuous cognition. That, as previously stated, a multitude of experiences are forgotten never to be revived, in no way disturbs the value of this fact. From these cognitive events with their affect emerge events of great significance as implied in the phrase "establishment of security in the family group." These events determine to some degree the nature of the entire phenomenal field. If we represent the emergence of these perceptions in our complicated symbolism as "I'm cold," "I'm hungry," and so on, we can understand the eventual effect upon the field characterized by saying the child is "resentful, niggardly, or suspicious." It should hardly be necessary to emphasize that these end results emerge from a multitude of cognitive events many of which in their original specific form may and probably are dropped from the field.

It is to be emphasized that each of the events are made possible through some species of cognition, a simple perception of pressure or temperature or distress of some sort, of which the individual is aware. In early stages of differentiation these involve no symbols and are probably limited to perceptions of physiological states but soon after birth the fundaments of the cognitive process include items "outside" the organism. It also needs emphasis that none of these are without some affective value.

Postulate 4: *The potential of parts in the dynamics of the field is a function of the affect, but is not a constant.*

If we agree that "all behavior is determined by the phenomenal field at the moment of action,"[13] we have not only the task of accounting for the differentiations of the field but for the source and nature of the potentials that initiate the movements we call behavior. Our premise that each

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[12] James S. Plant. *Personality and the Cultural Pattern*. Commonwealth Fund, New York, 1937. p. 4.

[13] Snygg and Combs. *Op. cit.*, p. 45.

individual is both a cognitive and affective organism offers us the only source. The affect must provide the dynamic potential, and the cognition is the only method of origin and of control or direction.

The close relationship between motivation and "emotions" is recognized extensively in the literature. To quote Dr. Lund again. "This review of representative studies in the field of motivation should serve to bring out more clearly the close relationship between the conditions identified with emotion and those identified with motivation. These conditions are essentially conditions of bodily stimulation and arousal. They give rise in emotion as in motivation, to behavior tendencies which usually assume positive and negative trends."[14]

It may not be amiss to recognize that the fundamental and peculiar property, irritability, has long been accepted.[15] It is a property of protoplasm which makes possible the initiation of movement when stimulated or irritated. In nerve structure we have a specialization of great irritability-ness making possible increased complexity of stimulation and movement* in more complex organisms.

The human animal we all agree is aware or conscious of stimulation. We express this universally as feeling hot, cold, sick. Just where in the phylogenetic development awareness begins is perhaps unknown. There have been assertions that a potato or carrot "feels" when peeled. Lacking the ability to squirm or cry out we'll have to settle for silent suffering! The problem of awareness is of outstanding significance for the phenomenologist. Just how awareness or consciousness becomes a characteristic of animals or where in phylogenetic development it occurs is not too clear.** But of its existence there is no doubt.

There might appear to be a problem with regard to "feeling" that arises in physiological situations such as pain, heat, cold, pinching, and other affective states arising because of "anticipating" cognitive events illustrated by such expressions as "this will hurt me," "I'd hate to do this," and others similar to them. Actually for our thesis this offers no difficulty. In both the affect is the source of the dynamics. The important fact to

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[14] Lund. *Op. cit.*, p. 276.

[15] Max Verworn. *Irritability.* Yale Univ. Press, New Haven, 1913.

*Movement is here intended to mean more than overt activity. Mental processes are included.

** We are aware of recent tendencies to seat awareness in the medullary structure.

note is that affect provides the dynamics of behavior. It is the only source of dynamics in the phenomenological field. To this there seems to be no exception.

The role of affect as the source of dynamics becomes more complicated as the field develops because of the time-binding ability of Homo sapiens or, as more commonly expressed, by cognitive ability to anticipate outcomes of behavior in increasingly distant areas of life space.

For this reason, we must deal for a moment with the relationships between cognition and affect in the case of events the fundaments of which need not themselves be strongly affective in nature. They will however take on greater affective potential as a result of the situation in which the individual develops any insights regarding them. Arithmetic experiences sometimes illustrate this. $2+2=4$, or $9\times7=63$ may not inherently be productive of negative affect. But the situation in which they are encountered may be sufficiently unpleasant that it develops an attitude of dislike. It may also be true that fundaments which inherently should have positive affect may take on negative affect as a result of the situation in which they are encountered, as in learning to play the piano. If a small child is compelled to practice an hour a day even though it starts with a positive attitude toward "music" the unpleasantness of the enforced practice may lead to a strong negative attitude toward the activity which in itself originally had only positive affect.

Try as one will if the process of differentiation from the first event onwards is objectively scrutinized we find no source of dynamics within the field except the affect that is coincident with each event and continues to be a characteristic of it as long as or when it is actually a part of the field. Moreover it is practically impossible to visualize the initiation of any degree of affect except as it follows or perhaps is coincident to the cognitive event, or is a fundament of the cognitive event as in the case of perceiving pain.

All the conventional terms such as need, desire, purpose, plan, objective, motive, and so on *ad infinitum,* if closely scrutinized bear out the assumption that some affective value must determine the potential of any part of the field. There can be certain exceptions granted without jeopardizing the assumption so far as the human phenomenal field is concerned. That is, it is not necessary to argue that the movement of an angle worm after stimulation by acid is accompanied by or preceded by a cognitive process.

The unsolved problem is this: How do the conflicting positive and negative potentials become synthesized, or coordinated, or resolved so

that a given behavior pattern is initiated by the field? Such statements as that the phenomenal field is a unified dynamic field only beg the question. The only possible answer is that in some way, not quite fully apparent, a given behavior item, with its goal, occurs when the potentials of the field parts that are present in awareness balance out all but a remainder of positive or negative potential that provides the dynamics for this specific behavior item or pattern. Lewin's use of barriers and positive and negative vectors is in close agreement with this concept. To avoid misconceptions here it is necessary to emphasize that behavior patterns must include both subjective and overt patterns.

That the potential of a given part is not a constant should be readily apparent. A four-year-old child who is (because of previous field differentiation) afraid of dogs, while playing on the boulevard in front of her house, sees a small dark animal at the end of the block and perceives it as a dog will behave in a way indicating "fear." Let us say she jumps up and starts to run toward her home. As she does so she "sees," i.e. recognizes, that it is not a dog but a cat. The potential changes immediately in both direction and intensity. This change in potential follows additional insights, i.e. a differentiation as we define it and this differentiation is the only way in which the dynamics of the field can alter in either direction or intensity. As Wheeler so discerningly phrased it years ago, "In handling emotional behavior, therefore, an appeal must be made to insight."[16] The only role a therapist can play in psychotherapy is to help the subject re-evaluate his field in order to change the potential and hence the dynamics. This will be referred to later.

Postulate 5: *The differentiation of the field (or any part) is a cognitive function, its associated affect changing in direction and intensity with each stage of differentiation.*

This is essentially a corollary of No. 1, but it leads to a closer scrutiny of the process of differentiation and its role in behavior alterations, and is important because it throws some light upon reinforcement, and alterations of important behavior items labeled likes, dislikes, fears, attitudes, and prejudices.

Let us return to the illustration cited under Postulate No. 4. It is well to emphasize that when the child saw the objective she perceives it as a dog. We cannot exactly duplicate the first pattern but we might believe she has a subjective pattern or patterns "there comes a dog, it might

[16] R. H. Wheeler and F. T. Perkins, *Principles of Mental Development.* Crowell, New York, 1932. p. 210.

bite me." The affect is strong and negative. An overt avoidance pattern begins then a further cognitive event, "Oh, it's a kitty," with a change of affect in a positive direction. I am not arguing that the cognitive event follows such a precise "formula" but only that some such insight must occur before any change or differentiation can be presumed and that the intensity and direction of the affect *must* be determined by the nature of the cognitive event.

Neither is it implied that the affective potential is never lasting or never approaches stability. The event in life space with its affect that first determined the fear of dogs is a case in point. In many instances a fear may be developed as the residue of a single exposure and it may persist for a long period. Even here however it is logical to assume that the affect does not remain constant. Subsequent events either overt or subjective will reinforce or reduce the attitude, in this case labeled fear.

If the event emerging is one which, because of strong affect in association with it as would be the case of a child bitten by an animal or frightened by a threatening adult or any similar situation producing a direct fear, it can be reinforced by actual reliving or subjectively reliving the same experience. Similar reinforcements occur in the case of taboos of all sorts where there are repetitions of similar data (whether true or not) with the affective potential of the same direction.

If different data are experienced with different potentials the original potential may be reduced or even obliterated. But it is to be noted that in either of these cases there is no simple mechanical repetitory phenomenon.

Postulate 6: *There is some degree of awareness of each and every differentiation of the field.*

In introducing "awareness" Snygg and Combs first account for it as a perception of differences existing between the demands of the situation and the phenomenal self. "He seems to perceive this state of affairs as 'doubt,' as a vague feeling of tension, as a feeling that 'something is wrong,' or, more specifically, as a feeling of inadequacy or failure."[17] But the tendency is for the reader to focus on the affect implied by "uneasiness" and "inadequacy." Later the statement appears: "The individual is always aware of what exists in his phenomenal field, the field might even be described as one's personal field of awareness."[18] With this latter state-

[17] Snygg and Combs. *Op. cit.* p. 92.

[18] *Ibid.*, p. 116.

ment we agree. We will deal with the confusing problem of cognition and affect in the discussion of our last postulate.

For the present the importance of awareness is in need of emphasis and clarification. We can readily agree with Snygg and Combs in rejecting the confusion of Freudian conscious-unconscious casual field, and agree with them that in every moment of life space the individual is aware (or conscious) of his field. Or to put it more precisely the field exists within the limits of awareness.

Anatomists and physiologists have been interested in the physical and physiological basis of awareness for long, but recently it appears that there may be an increase in this interest. At least much recent publication should be of interest to students of behavior, other than those who attempt to do without such contributions. We shall not attempt an exhausive review but some sources will be at least touched upon. Magoun's cautious statement should have serious attention. "Although the present symposium on consciousness is doubtless something of a milestone in this development, enthuiasm may well be tempered by appreciation of the head-shaking sympathy with which future investigators will probably look back upon the groping efforts of the mid-twentieth century, for there is every indication that the neural basis of consciousness is a problem that will not be solved quickly."[19]

In this symposium there is much attention to the reticular system of the brain stem. And even though there is disagreement as to its specificity as for example Olszewiski's statement that "Therefore it is our opinion that the term reticular formation could advantageously be dropped from both anatomical and physiological parlance, and that when speaking of any particular region of the brain stem reference should be made to the nucleus or nuclei which conprise it,"[20] there is nevertheless repeated reference to evidence indicating that "the lower reticular formation is correlated with the arousal reaction and with the maintenance of wakefulness."[21]

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[19] H. W. Magoun. "The Ascending Reticular System and Wakefulness." p. 1. *Brain Mechanisms and Consciousness,* A Symposium. C. C. Thomas, Springfield, Ill., 1954.

[20] Jerzy Olszewski. "The Cytoarchitecture of the Human Reticular Formation." p. 74. *Ibid.*

[21] G. Moruzzi. "The Physiological Properties of the Brain Stem Reticular System." p. 44. *Ibid.*

Two interesting aspects of these contributions can be noted here. One is represented by Dr. Hess' conclusions, "The organism's state of general excitability—which includes alertness and consciousness—is regulated by two antagonistic functional centres: the ergotrophic centre which aims at maximum alertness . . . . and the trophotropic centre which instigates inhibition of such activity . . . . From absolute prevalence of the former centre to maximal predominance of the latter, shades of intermediate states exist, such as relaxation, drowsiness, light sleep and so on, *each linked to a corresponding level of consciousness.*"[22] We do not mean to imply that all agree upon the positive nature of activity reduction, but only that the gradation of alertness appears to be frequently implied.

The second aspect is the frequent recognition of the involvement of the cortex. "These results indicate that central portions of the lower brain stem are the seat. . . also of systems which influence profoundly the activity of the final motor pathway and of the diencephalic and telencephalic centers."[23] "Many experiments suggest that full consciousness requires an incessant cross-fire of intra-cortical and inter-cortical as well as cortico-thalamic facilitating interactions."[24] "Accumulating evidence on the facilitative action of the reticular system has suggested that it may be specifically related to the selection of the content of experience and to the control of the direction of thought; to attention and set. I shall try to analyze these functions in some detail, to show their actual complexity and dependence upon organization which is almost certainly cortical."[25]

Picking statements out of context is dangerous and gives an appearance of agreement not wholly justified. A reading of Dr. Fessard's discussion would make this clear.[26] But even his brilliant analyses of the three divergent opinions concerning the concentrated versus diffuse nature of the nervous substratum of "experienced integration" in the brain does not remove the possibilities of interpretations such as quoted.

It is not intended to make gratuitous interpretations of neurological

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[22] W. R. Hess. "The Diencephalic Sleep Centre." p. 125. *Ibid.*

[23] Jerzy Olszewski. *Op. cit.* p. 55.

[24] Frederic Bremer. "The Neurophysiological Problem of Sleep." p. 151. *Brain Mechanisms and Consciousness,* A Symposium. C. C. Thomas, Springfield, Ill., 1954.

[25] K. S. Lashley. "Dynamic Processes in Perception." p. 425. *Ibid.*

[26] A. E. Fessard. "Mechanisms of Nervous Integration and Conscious Experience." p. 200. *Ibid.*

data. Our purpose is to suggest that there are no data contradictory to our postulates. On the contrary if anything it favors our psychological interpretations. One wonders indeed how the long standing dichotomy between conscious and unconscious potentials can have endured.

There may be some difference between alertness and awareness and therefore we may not be able to take a categorical position that awareness is always a cognitive state genotypically speaking. But it is the most plausible position possible at the present time granting degrees of awareness.

Our interpretation thus continues. Completely subconscious or unconscious motivation cannot exist. Unless a part is in the field it cannot play any role in the dynamics of the field and according to our premise it is not in the field unless there is some degree of awareness. And by the same token any part of the field of which there is any degree of awareness at any moment of life space affects the dynamics of the field at that moment. This would apply to any parts in the field because of a cognitive event prior to a given moment but still in awareness, and any event emerging or differentiating at the moment.

But if a part previously differentiated is *completely* forgotten at a given moment it is completely out of awareness and hence at that moment not affecting the dynamics of the field. This has happened with respect to hundreds of items in our vocabulary and hundreds of other experiences in our past lives.

It is necessary to note that events previously differentiated and which at the moment of any stage of their differentiation were effective in the dynamics of the field may still be effective in some transposed form although the original event may be "forgotten" as, for example, a fear of a given person who had a long nose now present (at times) in a more or less vague uneasiness or fear whenever a person with a long nose appears. Something like this must be the situation regarding so-called subconscious motives for the phenomenological interpretations cannot accept contributory dynamics from any "part" completely out of awareness.

This is not meant to imply either that parts of a field completely out of awareness cannot be revived and again function as a part of the field. We are nevertheless committed to the belief that the phenomenal field at any moment is as previously stated limited by awareness, granting degrees of this awareness.

Postulate 7: ***The precision and clearness of the cognitive event and the intensity of the affect associated with it are both determiners of the degree of awareness.***

The inadequacies of the treatment of the problem of awareness *per se* have been very troublesome. As previously indicated, Snygg and Combs suggest levels of awareness and use such expressions as "vaguely uneasy." If awareness is as important as it appears by the previous discussion, some effort should be made to develop a better understanding of it as a field property.

It seems pretty evident now that the beginning differentiations are cognitive events in which some type of affect (feeling) is a fundament of the cognizing. Although we know that there is no verbal symbol available to the neonatus we cannot avoid the implications of our primary assumption, namely that it *must* experience cognitive events such as we represent later by "cold," "hungry," "noise," "light," and many others. These experiences if and when they *are* experiences can be so only if the neonatus and/or infant is aware of them. With each cognitive event there is some degree of affect either because the fundament is itself a "feeling" or because it produces it, or because it occurs in a situation that itself has an affective nature. To say then that the neonatus is aware is to say that a "fact of its universe" pain or hot or cold or light, or noise is cognized. The beginnings of differentiation as previously indicated are largely such events. To deny the cognition is to relegate the behavior to a level of a stimulated muscle fibre in a laboratory situation.

There must come a time when the affect is no longer limited to the feelings of pain, pressure, cold and so on perceived in early months, but result from a cognitive event and then may become a fundament. For example, let us suppose a baby has been fed (or attempt made to feed) with a bottle that is too hot. It is aware of the hotness and later the pattern "this is hot" or "this hurts" is followed by the pattern "this will hurt" when the next bottle appears. This represents the preponderant type of event usually thought of when we talk about "emotional reactions." The primary awareness here is a cognitive function initiating the rise of affect of some intensity which in turn appears to increase the awareness.

The question now as to the precision of the cognition or the definiteness or vagueness of the perception of the fundaments between which some relation is cognized becomes a problem-inviting study. If the fundaments involved in a cognitive event are perceived precisely, the initiated affect is specific and directionally limited. The infant perceived the bottle definitely and the affect was specific and directionally limited. That is, its potential leads to rather specific and directionally restricted avoiding reactions and "fear." But a specific fear!

If the fundaments are less clearly perceived the affect initiated may be less specific. But one needs to be careful about the clearness of perception

of fundaments. If a child perceives a dim dark threatening object at twilight and the resulting cognitive process is that "this is a robber who will kill me," this is a clear perception in its functional sense, the dimness or vagueness of the object as a visual perception notwithstanding. The affect that follows is intense and exerts a powerful potential. If a person perceives a flower ever so clearly visually, the affect may be positive though it may be mild and have little potential. If however the dim dark object is not clearly perceived, that is, "maybe that is father coming home," "maybe that is a man," "maybe that is somebody that might hurt me," or similar patterns, the affect will be conflicting or diffuse and not directionally limited until the perception changes. This intensifies the import of "the perception of the universe at the moment of action."

Awareness can exist only as a concomitant or result of a cognitive event.* The affective phase is either a fundament of the event in the case of pain, hunger and similar situations or follows an anticipatory cognitive process. It will therfore be determined to some degree by the nature of the field at any moment of duration, but in turn its intensity modifies the degree of awareness since the affect becomes a fundament in the flow of cognition and tends to fix the form of the cognitive process and always provides the dynamics of the field.

Implications

It is not intended to make extensive applications in this paper.** A few suggestions may be in order. In his fascinating article, "Can Mankind Survive," Chrisholm emphasizes the role of taboos in restricting the learning capacities of mankind.[27] Our postulates lead to a reinforcement of the position of Dr. Wheeler previously cited. The control, elimination, reduction, prevention or intensification of those attitudes phenotypically labeled taboos, fears, prejudices, likes and dislikes could occur through extra field manipulation of the data of events emerging in the field. This is in its broadest sense an educational process (as is so-called psychological therapy).

The beginning of any prejudice toward a race, a person or thing starts with a field event. Whether it is provided interpretation such as a parent

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[27] Brock Chrisholm. "Can Mankind Survive." *Nation,* 168 (1946) 63-5; 93-96.

*A more exhaustive treatment of the problem of awareness is in progress.

** More detailed implications will appear in papers previously mentioned as in preparation.

telling a child that a certain person is "not nice" or a more violent experience in which a boy or girl first "learns" he is deficient in some way, these emerge as cognitive events accompanied by some degree of affect. Reinforcement can occur in either overt or subjective reliving of the event so long as the "data" and the affect remain nearly the same. But other data such as some one else saying this certain person is "a good guy" lead to a differentiation and change of potential.

That some species of attitudes such as strong inferiorities would be difficult to re-differentiate may be readily granted without disturbing the validity of our thesis. But there is no possibility of avoiding the implication for an educative process that gives access to unrestricted data and opposing interpretations if our objective is to reduce the violent political, economic, racial and religious prejudices, that abort the reasoning processes.

In regard to the more restricted educational process called psychotherapy, which might more appropriately be called re-differentiation, a few comments are also in order. We can accept only one real "psycho" therapy, namely a re-differentiation of the field. If our postulates are valid this is basically a cognitive process leading to changes in the dynamics of the field and hence to changes in behavior. It can occur through the establishments of new insights concerning parts of the field already established, that is, events already experienced, but these new insights are a differentiation or in effect emergence of new events. Or it may result from incorporation in the field of new data again resulting in a new insight, i.e., differentiation or new events.

It is the function of the counselor to assist in this re-differentiation. Interviewing becomes literally *viewing-between* the counselor and counsellee. If, for example, a counsellee who "feels" insecure or inadequate or inferior, through directed re-differentiation feels more secure, adequate or less inferior he can only do so because of a differentiation in the field and this can occur only if new insights develop. Each or all of these depend upon new events emerging which can only result from cognitive process or insights.

The rather senseless arguments over directive or nondirective counseling are pointless in the light of these postulates. The counselor becomes a part of the field and as such in some degree effects its dynamics. The most the counselor could do, in initial interview, would be to attempt to influence the dynamics as little as possible until his interpretation of the counselee's field is complete enough to justify deliberate action to influence it more.

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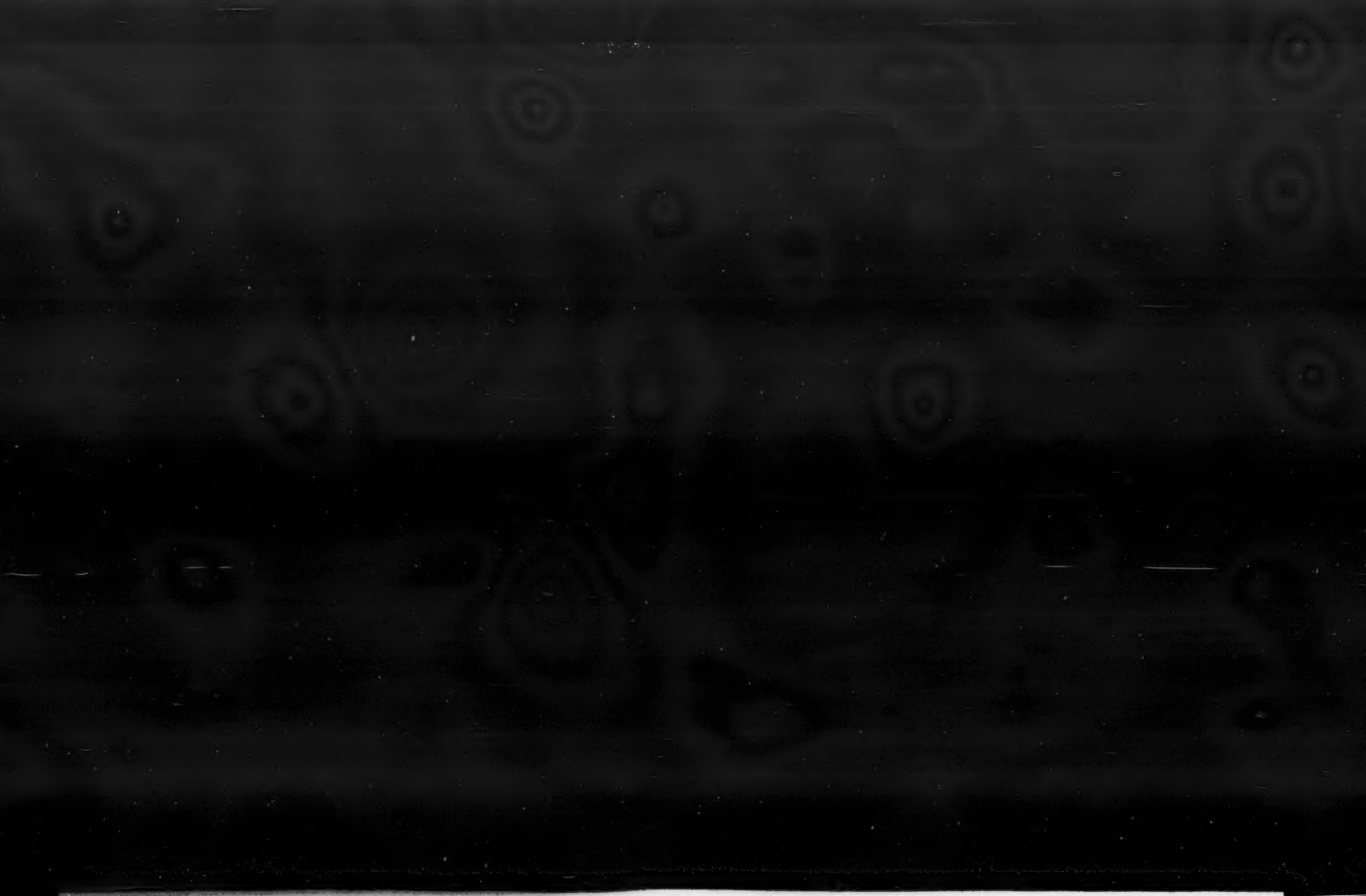
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